

REMARKS

Claims 1-12 are pending herein.

By this Amendment, the specification is amended to cure typographical errors. No new matter is added by this Amendment.

Applicants appreciate the courtesies shown to Applicants' representative by Examiner Battaglia and Young in the April 30 interview. Applicants' separate record of the substance of the interview is incorporated into the following remarks.

I. Specification

The specification was objected to because of a few informalities. In particular, the Examiner suggested (1) replacing "near-filed" with --near-field-- at page 2, line 17; (2) replacing "first" with --second-- at page 7, line 28; and (3) replacing "second" with --third-- at page 7, line 28.

To this end, Applicants herein amend the specification such that (1) "near-filed" is replaced with --near-field-- at paragraphs [0006] and [0024]; (2) "first" is replaced with --second-- and "second" is replaced with --third-- at paragraph [0021]; and (3) additional typographical errors are corrected throughout the specification.

Applicants submit the requirements of the Patent Office have been met.

II. Claim Rejections Under 35 U.S.C. §103(a)

Claims 1-12 were rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over U.S. Patent No. 5,343,486 (hereinafter "Itaya") in view of U.S. Patent No. 6,574,257 (hereinafter "Thronton"). This rejection is respectfully traversed.

Claim 1 recites, in part, a near-field optical head comprising a distributed feedback laser including first and second cladding layers, an active layer sandwiched between said first and second cladding layers, a first reflecting member formed within the first cladding layer at an interface between the active layer and the first cladding layer or in close proximity to the

active layer, a second reflecting member provided on a first end surface of an assembly of the first and second cladding layer and active layer, and a third reflecting member provided on a second end surface of the assembly.

Itaya discloses a semi-conductor laser (shown in Fig. 1) having a low reflectance of 20% formed on a front facet of the semiconductor laser (the side having a current blocking region) and a highly reflective coating layer having a high reflectance of 95% formed on the rear facet. See col. 4, lines 48-55 of Itaya. Fig. 5 (referenced by the Patent Office) is only different from Fig. 1 in that a distributed feedback structure using a diffraction grating is used. See col. 7, lines 25-28 of Itaya. The semiconductor laser device includes an active layer, first and second cladding layers which interpose the active layer, a reflecting layer (the first reflecting member as alleged by the Patent Office), and a highly reflective layer 63 (the third reflecting member as alleged by the Patent Office) formed on the rear facet of the resultant structure in the resonator direction. See the Abstract; Fig. 5; col. 3, lines 19-31; col. 4, lines 33-36; and col. 8, lines 1-2 of Itaya.

The Patent Office acknowledges that Itaya does not disclose that the semiconductor device to be used in a high-density optical disc system is a near-field optical head or that a second reflecting member is provided on a first end surface of an assembly of said first and second cladding layer and active layer that has an exit window formed by a fine aperture, whereby laser light emitted from said exit window of the distributed feed back laser is made incident upon an optical record medium arranged in a near-field.

Thronton discloses a near-field laser and detector 10 together with an optical medium 12. The apparatus 10 includes a semiconductor laser 14 having a first, front emission facet 16, and a second, rear emissions facet 18. The front emission facet 16 includes a first dielectric layer 28, a second dielectric layer 29 and a metal layer 30 (elements 28-30 being defined as the second reflecting member by the Patent Office).

The Patent Office alleges that Thronton cures the deficiencies of Itaya. More specifically, the Patent Office alleges that it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide on the first end surface of the assembly of the first and second cladding layers and the active layer of Itaya the second reflecting member having an exit window formed by a fine aperture of Thronton, and to emit laser light from the exit window upon an optical record medium arranged in a near-field as suggested by Thronton.

Contrary to the assertion made by the Patent Office, one skilled in the art would not have been motivated to have combined Itaya with Thronton. Specifically, Itaya requires a low reflectance of 20% formed on a front facet of the semiconductor laser (the side having a current blocking region) and a highly reflective coating layer having a high reflectance of 95% formed on the rear facet. To combine the references as suggested by the Examiner, the first dielectric layer 28, the second dielectric layer 29 and the metal layer 30 must be added to the low 20% reflectance side on the front facet of the semiconductor laser at the current blocking region. In view of the required low reflectance at this front facet, one would not have been led to have included the reflecting layer of Thronton on the front facet. Nothing in Thronton suggests using the reflecting layer mentioned therein in place of (or with) a low reflectance facet of a semiconductor.

For at least the foregoing reasons, Applicants submit that Itaya and Thronton, whether taken alone or in combination, would not have led one of ordinary skill in the art to the invention of claim 1 or any of depending claims 2-12.

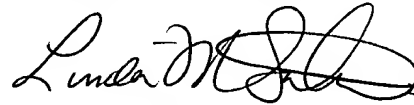
Reconsideration and withdrawal of the rejection are thus respectfully requested.

III. Conclusion

In view of the foregoing, it is respectfully submitted that this application is in condition for allowance. Favorable reconsideration and prompt allowance of claims 1-12 are earnestly solicited.

Should the Examiner believe that anything further would be desirable in order to place this application in even better condition for allowance, the Examiner is invited to contact the undersigned at the telephone number set forth below.

Respectfully submitted,



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